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ABSTRACT

This paper considers the size of the marketplace for education testing. The discussion is focused on commercial standardized achievement tests produced for the elementary and secondary market, the "Elhi" market. A few testing companies now account for the bulk of the test sales in the Elhi market, but it is difficult to obtain exact figures on the size of the testing marketplace. Five indicators of indirect growth are examined: (1) number of state-mandated testing programs; (2) aggregate sales of tests; (3) revenues of four testing companies; (5) prices of test booklets, answer sheets, and scoring services; and (6) references to testing in the education literature. When all of these things are considered, it is evident that the test market is large and growing. The growth potential of the industry and the fact that it is largely unregulated mean that more attention must be paid to testing and the educational outcomes that result. (SLD)

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statements

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The Marketplace for Educational Testing

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Educational testing is big business. It is big in terms of the number of tests produced and the number of students tested. It is also big in terms of revenues generated by the sale and scoring of tests. In this paper, we try to measure the size of the marketplace for educational testing and its growth. The discussion is mainly focused on commercial standardized achievement tests produced for the elementary and secondary market – the Elhi market.

A small number of testing companies now account for the bulk of the test sales in the Elhi market: ACT, Inc., California Test Bureau (a division of the McGraw-Hill companies), Educational Testing Service (ETS), NCS Pearson (formerly National Computer Systems), Riverside Publishing (a Houghton Mifflin company), Scantron (a Harland company), and The Psychological Corporation (its educational testing division recently became a separate company, Harcourt Educational Measurement).

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The National Board on Educational Testing and Public Policy, located in the Lynch School of Education at Boston College, is an independent body created to monitor testing in American education. The National Board provides research-based information for policy decision making, with special attention to groups historically underserved by the educational system. In particular, the National Board

- Monitors testing programs, policies, and products
- Evaluates the benefits and costs of specific testing policies
- Evaluates the extent to which professional standards for test development and use are met in specific contexts

This National Board paper discusses the growth of the marketplace for educational tests using five indirect indicators.

Statements Series Editor: Marguerite Clarke

ETS (under contract from the College Board) and ACT control the college entrance examination market; NCS Pearson and Scantron are the major suppliers of scoring services and machines; and California Test Bureau, Harcourt Educational Measurement, and Riverside publish some of the most popular Elhi achievement tests, including the Iowa Tests of Basic Skills (ITBS), Iowa Tests of Educational Development (ITED), Metropolitan Achievement Test, Stanford, and TerraNova batteries.[1]

It is difficult to obtain exact figures on the size of the testing marketplace, partly because so many different agencies and people administer tests that it is impossible to track all of them down. Moreover, the testing industry itself is somewhat secretive. Given the paucity of evidence on testing volume, we examine five indirect indicators of growth in the Elhi market:

- Number of state-mandated testing programs
- Aggregate sales of tests
- Revenues of four testing companies
- Prices of test booklets, answer sheets, and scoring services
- References to testing in the education literature

State-Mandated Testing Programs

The number of state-mandated testing programs started rising in the 1960s and reached 35 by 1985. Many of the early programs focused on the assessment of minimum competencies or basic skills. By the 1990s, state-mandated tests based on more rigorous content and performance standards in different subject areas had become widespread. Since the American Federation of Teachers began tracking the use of these standards-based tests in 1995, the number of states using or planning to use this form of assessment has risen by almost 50 percent, from 33 to 49.[2]

Many state testing programs use commercially produced tests in addition to tests they develop themselves.[3] For example, to assess achievement in mathematics, the state of Georgia uses the commercially produced ITBS at grades 3, 5, and 8 (to be replaced with the Stanford test in Spring 2001) and its own state-developed tests in grades 4, 6, 8, 11 and 12.

Given that approximately 17 million students are tested each year in these state testing programs, approximately 51 million tests are administered annually (assuming 3 tests per student). An additional 85 million tests are administered annually at the

district-level, along with approximately 11.5 million tests for special populations. While we do not have exact figures on how many of these tests are commercially produced, it is probably a sizeable number.

Sales of Tests

Data on the dollar volume of test sales for the Elhi market over the last several decades appear in *The Bowker Annual of Library and Book Trade Information (The Bowker Annual).*[4] *The Bowker Annual* gets its figures from the Association of American Publishers' (AAP) *Industry Statistics Report.*[5] Figure 1 shows the sales figures for 1955 through 1997 as reported in *The Bowker Annual.* All costs were converted to constant 1998 dollars using the yearly Consumer Price Index as the basis for adjustment.

Figure 1

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The growth in test sales is dramatic, from less than $7 million in 1955 to over $263 million in 1997. Between 1990 and 1997 alone, sales increased by about 50 percent or $88 million. It should be noted, however, that the Elhi test sales figure for 1997, as reported by the AAP, still represents only a small percentage of the $22 billion in total book sales in the same year.

Since most publishers treat their test sales figures as proprietary, the Elhi figures cannot be disaggregated by publisher. Further, annual reports to stockholders by parent companies usually do not break out sales figures for their testing subsidiaries. Therefore, we could not check the accuracy of the AAP data. However, we believe that the figures may be incomplete in several regards. In particular, the AAP data do not cover three aspects of testing in elementary and secondary education in the US. First, they do not encompass the cost of some test scoring services (for example, the revenues of NCS Pearson, which has a dominant role in that market). Second, they do not include sales figures from companies that are not publishers of tests per se but that build standardized achievement tests on contract for states and districts (e.g., Measured Progress [formerly Advanced Systems in Measurement and Evaluation] and National Evaluation Systems). While the number of these companies is quite small, they do a significant business. Third, the data do not include the revenues generated by the college entrance tests produced by ACT and ETS.

Revenues of Four Companies

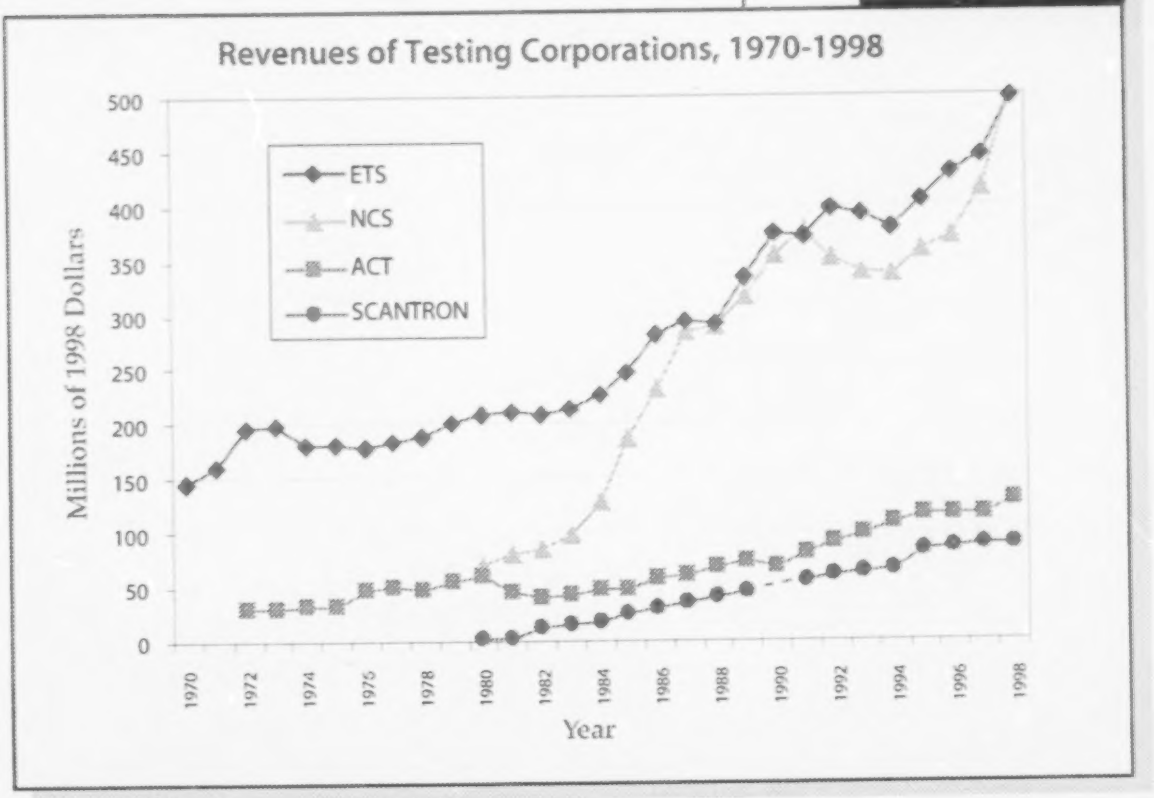
Though comprehensive data on the dollar volume of test sales are not available, we do have data on the revenues of four of the major testing companies over various periods: for ETS, 1970–1998; NCS, 1980–1998 (prior to its merger with Pearson); ACT 1972–1998; and Scantron, 1980–1998. Figure 2 shows the four revenue trends in constant 1998 dollars.*

The total revenues of ETS show a more than threefold increase from 1970 to 1998. The 1998 revenues represent an increase of $52 million over the previous year, with $45 million of this increase coming from testing activities alone. In fact, over the last 25 years, some 85–90 percent of ETS total revenues has come from its testing services. An interesting aspect of these figures is that, while ETS is not usually considered a player in Elhi testing, much of its revenue comes from the college admissions testing of secondary school students. In 1998, the last year for which we have sales data, the ETS

revenue from college admissions testing alone (almost $157 million, and not included in the AAP data) was nearly 60 percent of the value that the AAP reported for all Elhi test sales ($263 million) and represented around 32 percent of ETS's total revenues for that year.

Revenues of NCS increased even more sharply between 1980 and 1998. While we have no breakdown of NCS total revenues, it appears that the vast bulk of NCS revenues — 80–90 percent — came from scanning services, test building, and test sales. NCS's emergence as a major test provider illustrates two trends. Increasingly, the market appears to be fracturing so that, for a given test, different organizations can be involved in test sponsorship, development, administration, scoring, interpretation, and use of results. Also, NCS's sharp growth in the 1990s (revenues rose by about 43 percent between 1990 and 1998) indicates the increasing importance of computer technology, including the use of computers not just to score test results but also to produce reports "interpreting" them.

Figure 2



Scantron illustrates several significant recent trends in the testing marketplace: the increasing importance of computer technology, the importance of test scoring, and the rapid pace of corporate takeovers and reorganizations.

The ACT Program was founded in the 1950s as a not-for-profit organization that produced tests for college admissions. ACT still serves colleges, but also provides services to K–12 education and educational agencies, business and industry, as well as a broad range of supplementary materials and services. ACT has shown more modest revenues than some of the other companies, but revenues have increased approximately fourfold over nearly three decades — slightly more than ETS's pace of growth during the same period. The downturn in the 1980s did not represent a slump in ACT testing business; it reflected ACT's loss of a major federal contract to process student financial aid forms.

Revenues for Scantron, the fourth company examined, have been much smaller than those of the other three. This is hardly surprising since Scantron was founded only in 1972, whereas ETS, NCS, and ACT have existed since 1947, 1962, and 1959 respectively. However, between 1980 and 1988 (the year it became a subsidiary of John Harland), Scantron's annual rate of growth considerably outpaced those of the larger firms. Since 1988, Scantron's revenues have doubled. In that same time period, their core business moved from 90 percent to just 50 percent educational (with the balance being taken up by services to the commercial sector). Thus, not all of the growth in profit is directly due to profits from the education market. Scantron illustrates several significant recent trends in the testing marketplace: the increasing importance of computer technology, the importance of test scoring, and the rapid pace of corporate takeovers and reorganizations.

Though we do not have sufficient details on the sources of revenue for each of these four companies to pinpoint trends, comparing figure 2 with figure 1 does suggest there is one common trend. For the four companies for which we have annual revenue data (particularly ETS and NCS) and for the test publishers reporting to the AAP, the 1980s and 1990s appears to have been a time of unprecedented growth in testing sales.

Price of Test Booklets and Scoring Services

In order to place test sales data in perspective, we examined the price of the test booklets and scoring services for the achievement test batteries of three of the largest publishers in the Elhi market — Harcourt Educational Measurement (still known as The Psychological Corporation or Psychcorp when these figures were obtained), California Test Bureau/McGraw-Hill, and Riverside Publishing/Houghton Mifflin. Our aim was to examine whether reported increases in test sales are due to increases in testing volume rather than increases in price. Specifically, we examined costs of test booklets, machine-scorable answer sheets, and scoring services as reported in the *Mental Measurement Yearbooks* or in recent catalogs of the three test publishers.* All costs were converted to constant 1998 dollars.

The real price of a test booklet has approximately tripled over the last sixty years, with the ITBS and ITED booklet price (published by Riverside Publishing) fluctuating more than the others. Figure 3 shows the costs of answer sheets and scoring, averaged across the three publishers.*

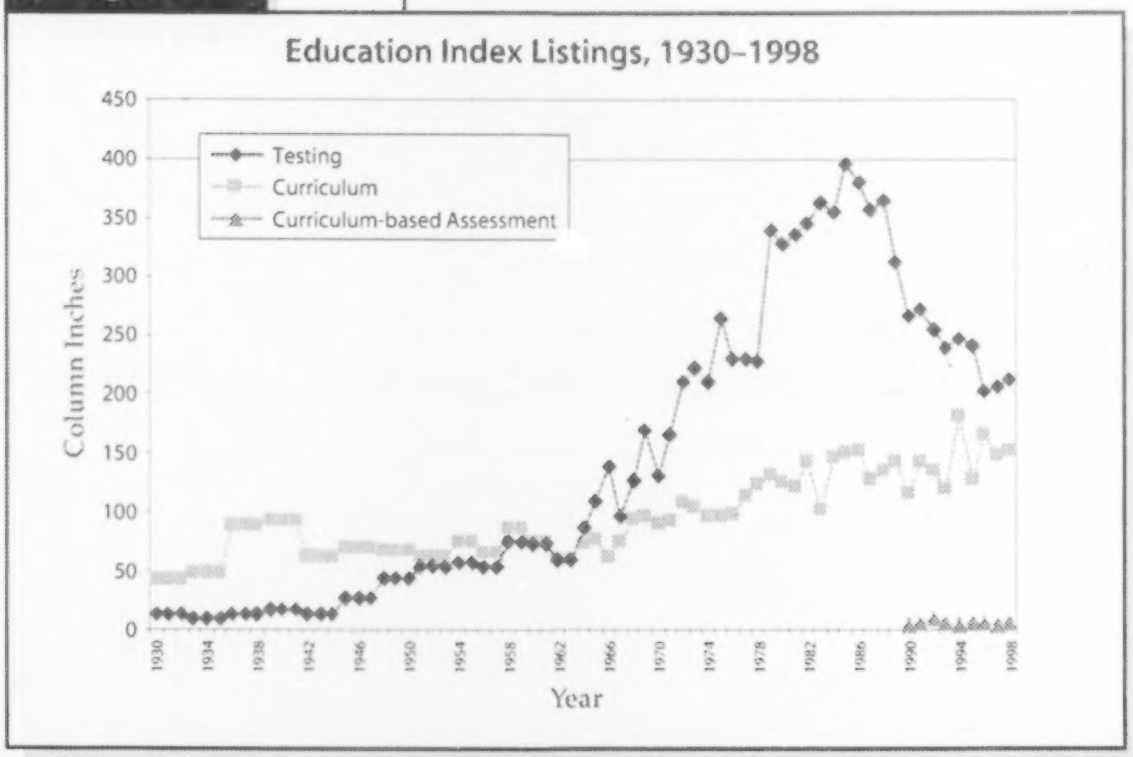
Figure 3

Generally, the cost of an answer sheet has been increasing since 1940 (from about 23 cents in 1940 to around 75 cents in 1998). Interestingly, the price of scoring services decreased from 1972 to 1985 (from $2.34 to $1.24) but has increased since then (reaching $3.50 in 1998). However, the cost increase for booklets, answer sheets, and scoring clearly cannot alone account for the eightfold increase in total Elhi test revenue during the same period (using figures reported by the AAP and adjusting for inflation). Instead, that increase is due in large measure to increased testing volumes.

The Literature on Educational Testing

An indirect indicator developed by one of our colleagues documents the increasing attention paid over the decades to educational testing. The indicator is the number of citations (column inches) under the rubric "testing" (and, because curriculum issues are a central focus of schooling, under "curriculum") from 1930 through 1985 in the *Education Index*.* The data, shown in figure 4, are updated through 1998.

Figure 4



While the annual number of column inches devoted to citations on curriculum has increased only modestly — from between 50 and 100 inches in the 1930s and 1940s to around 150 in recent years — the column inches on testing have gone from between 10 and 40 in the 1930s and 1940s to a peak of almost 400 in 1986. In the past few years the number of citations on testing has declined (it currently stands at around 210); but a new rubric, "performance-based assessment," was added to the Education Index in 1992 to reflect prevailing testing terminology, and those citations are not included in our update. We do include data for "curriculum-based assessment," another new category, added in 1990. The inclusion of this term testifies to the trend toward standards-based assessments at the state level, which we have commented on earlier. While these indicators are somewhat crude, they certainly highlight the prominence of testing in the education literature, particularly since the mid-1960s.

Conclusion

In this National Board paper, we showed that the testing marketplace is large and continuing to grow. The growth potential of this industry, and the fact that it is largely unregulated, mean that we need to pay more attention to the issues that influence it and to the educational outcomes that result.

With this in mind, a goal of the National Board is to encourage test makers, policy makers, and other players in the testing marketplace to develop and use tests in a way that leads to the most beneficial educational outcomes for students, schools, and society. Such a goal is not at odds with the efficiency and cost concerns that have characterized the testing enterprise for much of this century. Rather, it will allow both test makers and test users to implement testing programs that have the best chance of being both educationally beneficial and commercially successful.

The growth potential of this industry, and the fact that it is largely unregulated, mean that we need to pay more attention to the issues that influence it and to the educational outcomes that result.

notes

1. A test "battery" generally consists tests of mathematics, language arts, reading, vocabulary, social studies and science. The latter two types of tests are not used as often as the first three because of wide variation in social studies and science curricula among schools.
2. American Federation of Teachers. (1999). *Making standards matter 1999*. Washington, DC: American Federation of Teachers.
3. Council of Chief State School Officers. (1998). *Key state education policies on K-12 education: Standards, graduation, assessment, teacher licensure, time and attendance. A 50 state report, December 1998*. Washington, DC: Council of Chief State School Officers.
4. R.R. Bowker Company. (1970-1998). *The Bowker annual of library and book trade information*, 16-42. New York: Bowker Company.
5. Association of American Publishers. (1970-1998). *Industry statistics report*. New York: Association of American Publishers.
6. Company annual reports.
7. The *Mental Measurement Yearbooks* are "consumer-oriented reviews... that provide evaluative information to promote and encourage test selection" (www.unl.edu/buros/catalog.html#mmy). The *Yearbooks* provide a list of available tests, critical reviews by independent persons from psychology, testing and measurement, and related fields, and bibliographies. See: Buros, O. K. (Ed.). (1938, 1940, 1949, 1953, 1959, 1965, 1974, 1978); Mitchell, J. V. (Ed.). (1985); Conoley, J. C., and Kramer, J. J. (Eds.). (1989, 1992); Conoley, J.C., and Impara, J.C., (Eds.). (1995); Impara, J.C., and Plake, B.S. (Eds.). (1998). *Mental measurement yearbook*. Highland Park, NJ: Gryphon.
8. Company catalogs and *Mental Measurement Yearbooks*.
9. H.W. Wilson. (1932-1998). *Education index*. New York: H.W. Wilson.

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